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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,982	11/29/2001	Koorosh Aflatooni	LWM-A072	4290

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EXAMINER

PETKOVSEK, DANIEL J

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 11/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/997,982	Applicant(s) AFLATOONI ET AL.	
	Examiner Daniel J Petkovsek	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on the amendment received July 29, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: <u>Ben Healy</u> |

DETAILED ACTION

This office action is in response to the response received on July 29, 2003. In accordance, new drawings have been presented.

Drawings

1. The drawings were received on July 29, 2003. These drawings are acknowledged as correcting the informal drawings as previously filed.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Fondeur et al. 6,546,158.

Fondeur et al. 6,546,158 teaches (ABS, Fig. 2, column 2, lines 1-14, column 4 line 64 through column 5 line 26) an integrated planar waveguide circuit for dispersion compensation comprising: an input, a filter inherently having fourier series representation properties (Appendix), adding a phase compensation to the signal to correct for a chromatic dispersion of the signal, and an output from the filter. Regarding claims 2-6, and 8-12, the fourier filter (as also used as a definition of claim 2) is implemented using a tap delay filter, having a plurality of delay lines using Mach-Zehnder couplers (41, 43, 45) and having thermal optic phase shifters (46, 47, 48). The signals are eventually recombined, and have spectral range properties.

4. Claims 1 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Nolan U.S.P. No. 6,307,991.

Nolan U.S.P. No. 6,307,991 teaches (ABS, Fig. 3, column 1, lines 5-12, column 3, lines 14-32, column 5, lines 13-22, claims 1, 2) an integrated planar waveguide (with AWG) circuit 20 for dispersion compensation comprising: an input 22, a fourier filtering response to add a phase compensation (by phase adjusting regions 32 and 36) to the signal to correct for chromatic dispersion in the signal, and an output 24 coupled to the fourier filter.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fondeur et al. U.S.P. No. 6,546,158, and further in view of Oguma et al. U.S.P. No. 6,606,433.

Fondeur et al. 6,546,158 teaches (ABS, Fig. 2, column 2, lines 1-14, column 4 line 64 through column 5 line 26) an integrated planar waveguide circuit for dispersion compensation comprising: an input, a filter inherently having fourier series representation properties (Appendix), adding a phase compensation to the signal to correct for a chromatic dispersion of the signal, and an output from the filter. Fondeur et al. '158 does not explicitly teach that the output from the fourier filter is coupled to an arrayed waveguide grating.

Oguma et al. '433 teaches (Fig. 1, column 4, lines 39-55) a programmable optical delay line filter with delay lines (108, 109, 110) each having Mach-Zehnder coupling orientation, and having thermal optic phase shifters to compensate for dispersion and phase. Oguma et al. '433 also teaches the coupling of this delay line to an arrayed waveguide grating 101 for further optical signal processing.

Since Fondeur et al. '158 and Oguma et al. '433 are both from the same field of endeavor, the purpose of coupling the Fourier filter to an arrayed waveguide grating for further improved optical signal processing, as disclosed by Oguma et al. '433 would have been recognized in the pertinent art of Fondeur et al. '158.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to couple a filtered optical signal to an arrayed waveguide grating for the purpose of further optical signal processing, and improved signal performance.

Response to Arguments

7. Applicant's arguments, see response, filed July 29, 2003, with respect to the rejection(s) of claim(s) 1-18 under Doerr et al. US 20020106143, Saida et al. US 20030031406, and Doerr U.S.P. No. 6,212,315 have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of new art to Nolan U.S.P. No. 6,307,991, Fondeur et al. U.S.P. No. 6,546,158, and Oguma et al. U.S.P. No. 6,606,433. The new rejections to claims 1-18 have been fully addressed above.

Conclusion

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8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, with respect to the state of the art of fourier filtering properties in tapped delay lines in the planar orientation: PTO-892 form references D-G, and U.

This action is made **NON-FINAL**, since a new ground of rejection has been presented to claims 1-18.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J Petkovsek whose telephone number is (703) 305-6919. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 872-9321.



Daniel Petkovsek
October 27, 2003

